DAIKOWM NiMo

GMAW

HIGH YIELD STRENGTH STEELS
100ksi

DESCRIPTION

Low alloy solid wire for high yield strength steels

Low-alloy copper-coated solid wire rod with Ni-Cr-Mo additions designed for welding high yield strength steels and with tensile strength higher than 700 MPa. Good impact strength at low temperatures. Suitable for the metal working industry, offshore fabrication, chemical and petrochemical industry. It also has applications in fabrications of high strength low-alloy steels, which may be used for industrial machinery construction, cranes and other highly stressed structural components.

SPECIFICATIONS

EN ISO 16834-A	G 62 4 Mn3NiCrMo	**AWS A5.28**	ER100S-G
Certifications	CE	**Shielding**	M20, M21
Positions	PA, PB, PC, PD, PE, PF, PG	**Current**	DC+
Packaging Type	Drums, B300, D200 and D100 spools.		

ASME QUALIFICATIONS

F-No (QW432)	6
A-No (QW442)	10

CHEM. COMP. %	DEFAULT
C	0.09
Mn	1.5
Ni	0.55
Cr	0.4
P	0.01
S	0.007
Mo	0.22
Si	0.7
Cu	0.14

MECHANICAL PROPERTIES	MIN. PER STANDARD	PRODUCT
Tensile strength R_m MPa	700	720
Yield strength $R_{p0.2}$ MPa	620	620
Elongation A (L_0=5d_0) %	-	20
Impact Charpy ISO-V	47J @ -40°C	50J @ -40°C
Impact Charpy ISO-V	-	-

WELDING PARAMETERS	1.0 mm	1.2 mm
Ampere	170A - 220A	180A - 300A
Voltage	24V - 28V	26V - 30V
Packaging	Ø 0,8÷1,6mm	Ø 0,8÷1,6mm
Packaging Type	Drums, B300, D200 and D100 spools.	Drums, B300, D200 and D100 spools.

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APPLICATION

These consumables are designed to ensure excellent impact resistance even at low temperatures, making them ideal for use in constructions with high-strength low-alloy (HSLA) steels, such as cranes, earth-moving equipment, and the like. They are also particularly suitable for offshore fabrications and components in the chemical and petrochemical industries. Preheating based on the base material and thickness is crucial, considering that higher strength materials often require a minimum preheat of 100 °C. For some HSLA steels, it's advisable to avoid interpass temperatures above 200 °C, as they may compromise the weld joint's strength and toughness. Post-weld heat treatment (PWHT) is closely related to the base material and the specific application.

ALLOY TYPE

Mn-Ni-Mo low alloy consumables for welding high strength steels with ultimate tensile strength to 690 MPa (100ksi).

MICROSTRUCTURE

Predominantly ferrite; some will contain high proportions of acicular ferrite for optimum as welded toughness.

MATERIALS

For joining of quenched and tempered and thermomechanically rolled fine-grained structural steels. For use in building, crane and vehicle constructions.
EN W.Nr.: S460, S500, S550, S620, S620Q, S620QL, S620QL1, S690Q, S690QL, S690QL1, S600MC, S650MC, S700MC, L690M, L830M
ASTM: A 514 Gr. F, H, Q, A 709 Gr. 100 Type B, E, F, H, Q, A 709 Gr. HPS 100W
API: 5L X65, 5L X70, 5L X80+
PROPRIETARY: N-A-XTRA® M 700 (ThyssenKrupp), Strenx® 700 (SSAB)